



Weeks 2-3 Global Tropics Hazards Outlook

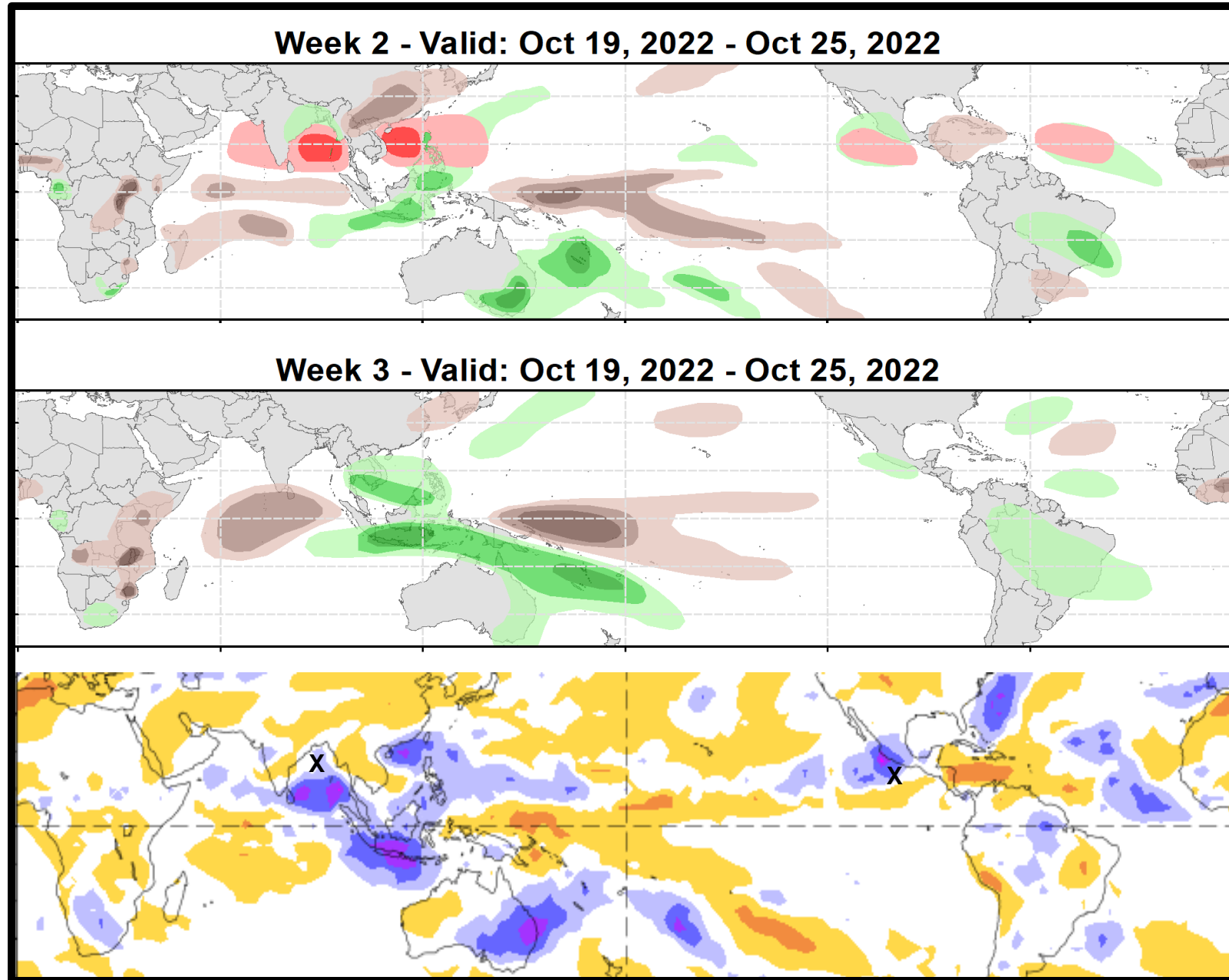
10/25/2022

Adam Allgood

NWS / NCEP / Climate Prediction Center

Outlook Review: TC development & anomalous precipitation during the past week

- Hurricane Roslyn (East Pacific) – Oct 20
- Tropical Storm Sitrang (Bay of Bengal) – Oct 23
- Precipitation skill appears to have improved considerably from Week-3 to Week-2.



Synopsis of Climate Modes:

ENSO: (Oct 13, 2022 Update) *next update on Thursday, Nov 10th!*

- ENSO Alert System Status: [La Niña Advisory](#)
- There is a 75% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 54% chance for ENSO-neutral in February-April 2023.

MJO and other subseasonal tropical variability:

- After an active period in early October (Indian Ocean to Maritime Continent), the MJO signal weakened considerably due to destructive interference with the ongoing La Niña.
- Unlike previous destructive interference events, the current MJO has generated widespread enhanced convection and low-level westerly anomalies off-Equator, particularly across the Northwest Pacific. This has resulted in a strong projection onto Phase-6 of the RMM-based MJO index.
- Enhanced Northwest Pacific convection is favored to continue, while remnant MJO activity crossing the Western Hemisphere during Week-2 may provide favorable conditions for late-season tropical cyclogenesis over the western Caribbean.
- Rossby wave activity over the Indian Ocean may yield favorable conditions for tropical cyclone development over the Bay of Bengal or southeastern Indian Ocean.

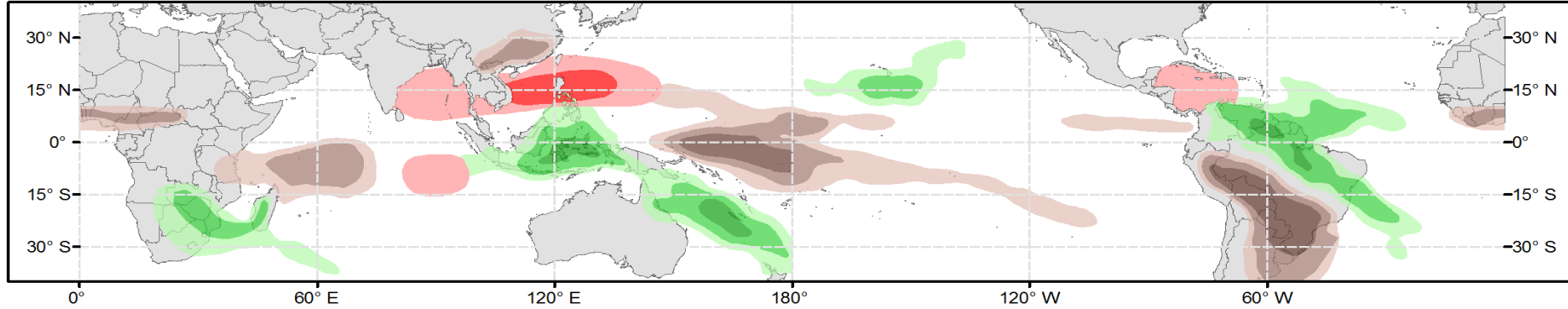
GTH Outlook:



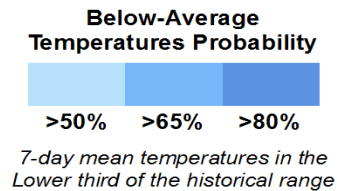
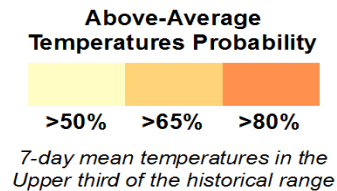
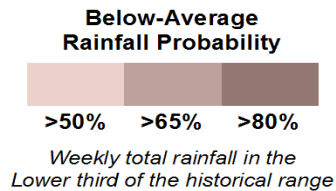
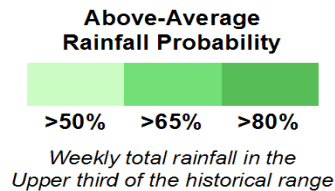
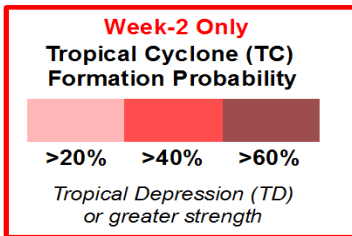
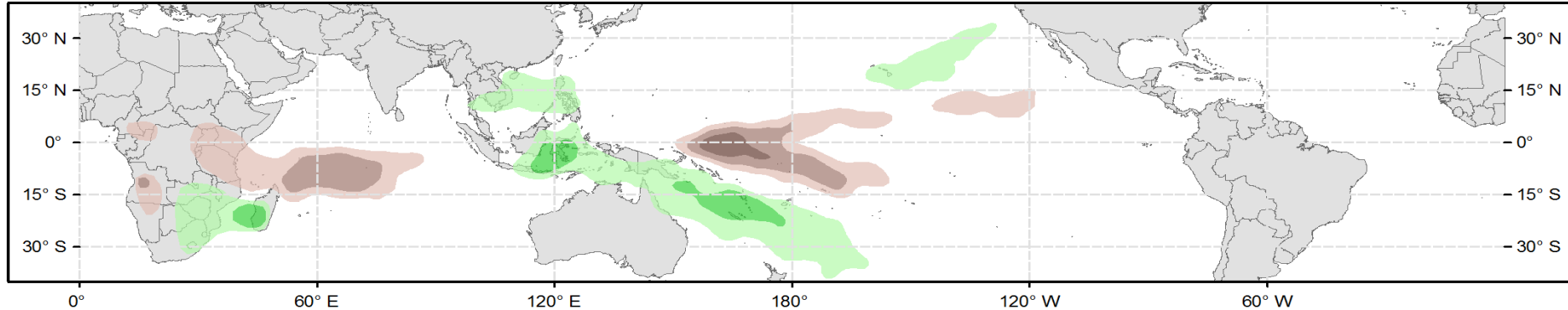
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Nov 02, 2022 - Nov 08, 2022



Week 3 - Valid: Nov 09, 2022 - Nov 15, 2022

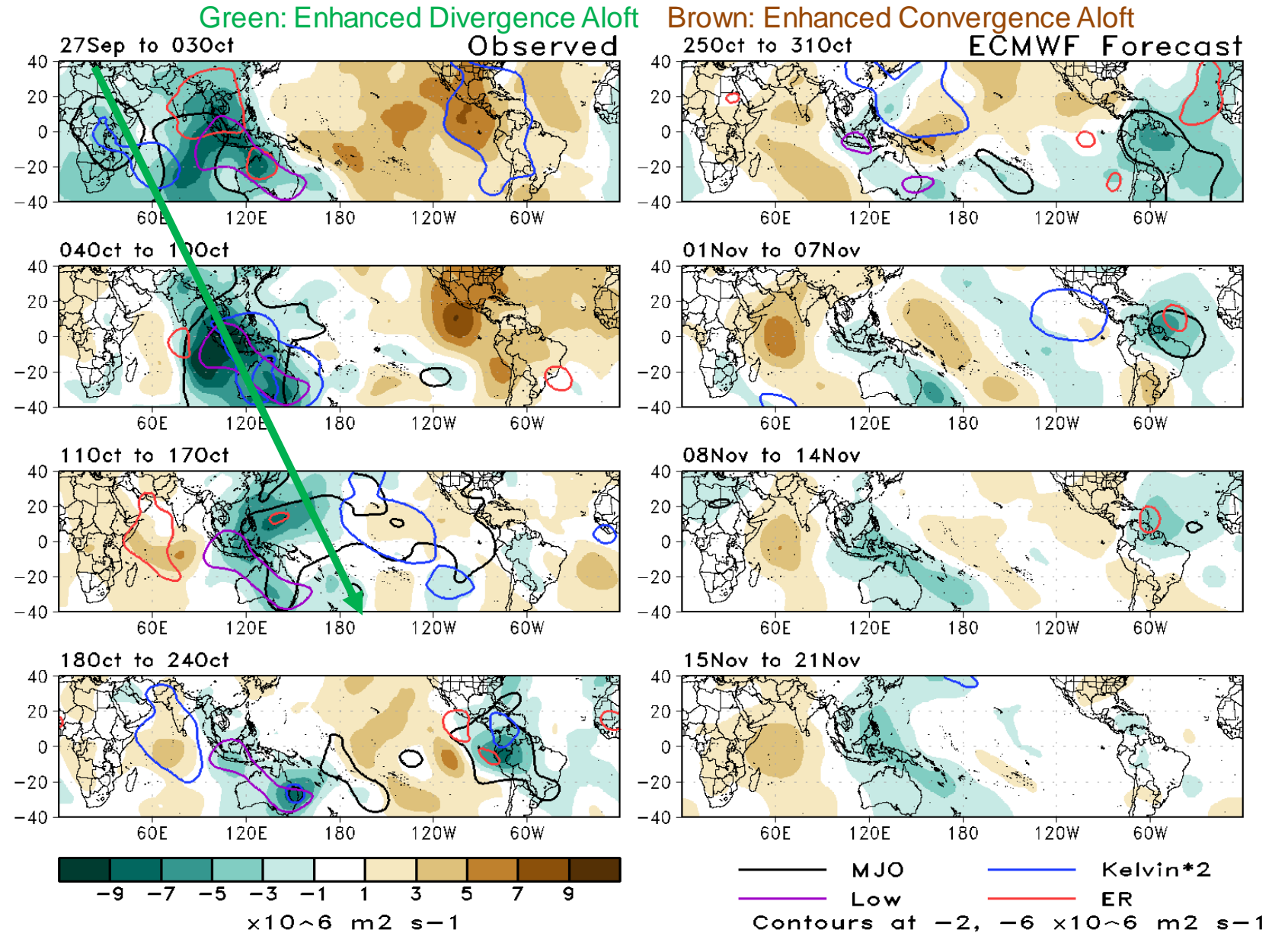


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Forecaster: Allgood

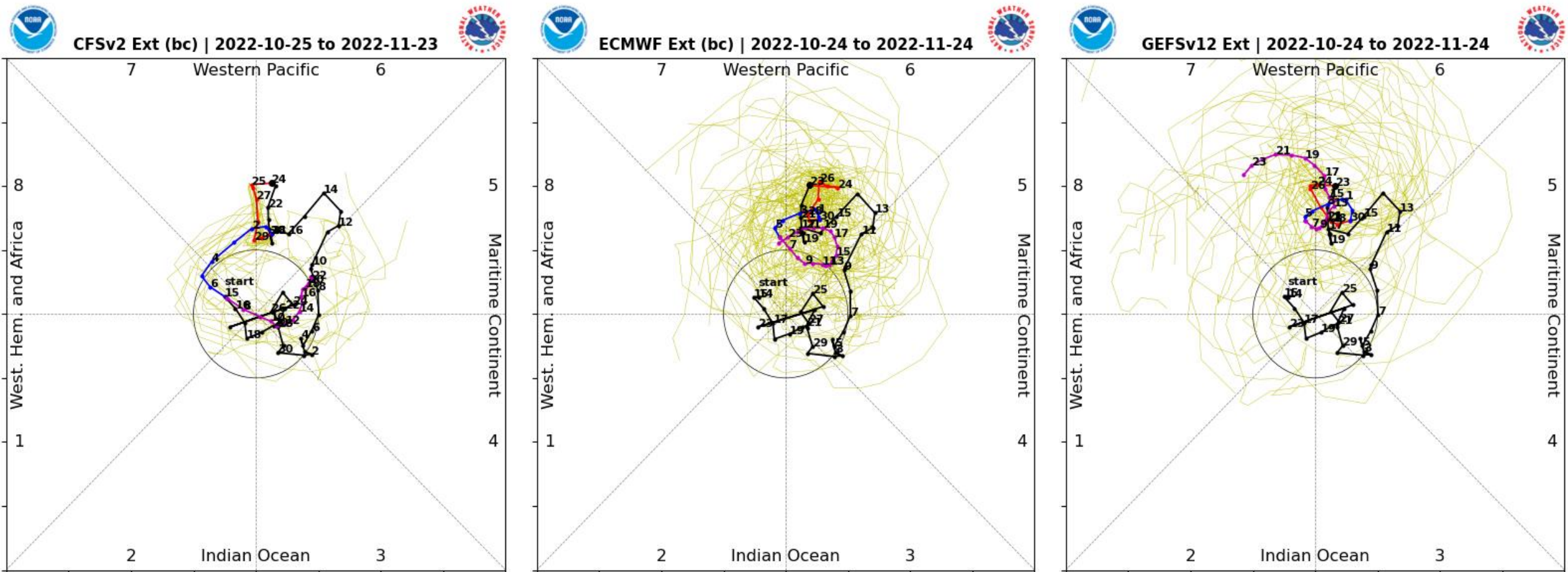
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- An active MJO pattern weakened by late October.
- The remnant MJO enhanced convective envelope may be entering the Western Hemisphere.
- A more stationary pattern with enhanced NW Pacific/Western Hemisphere convection, perhaps with traversing Kelvin waves, is favored through the outlook period.

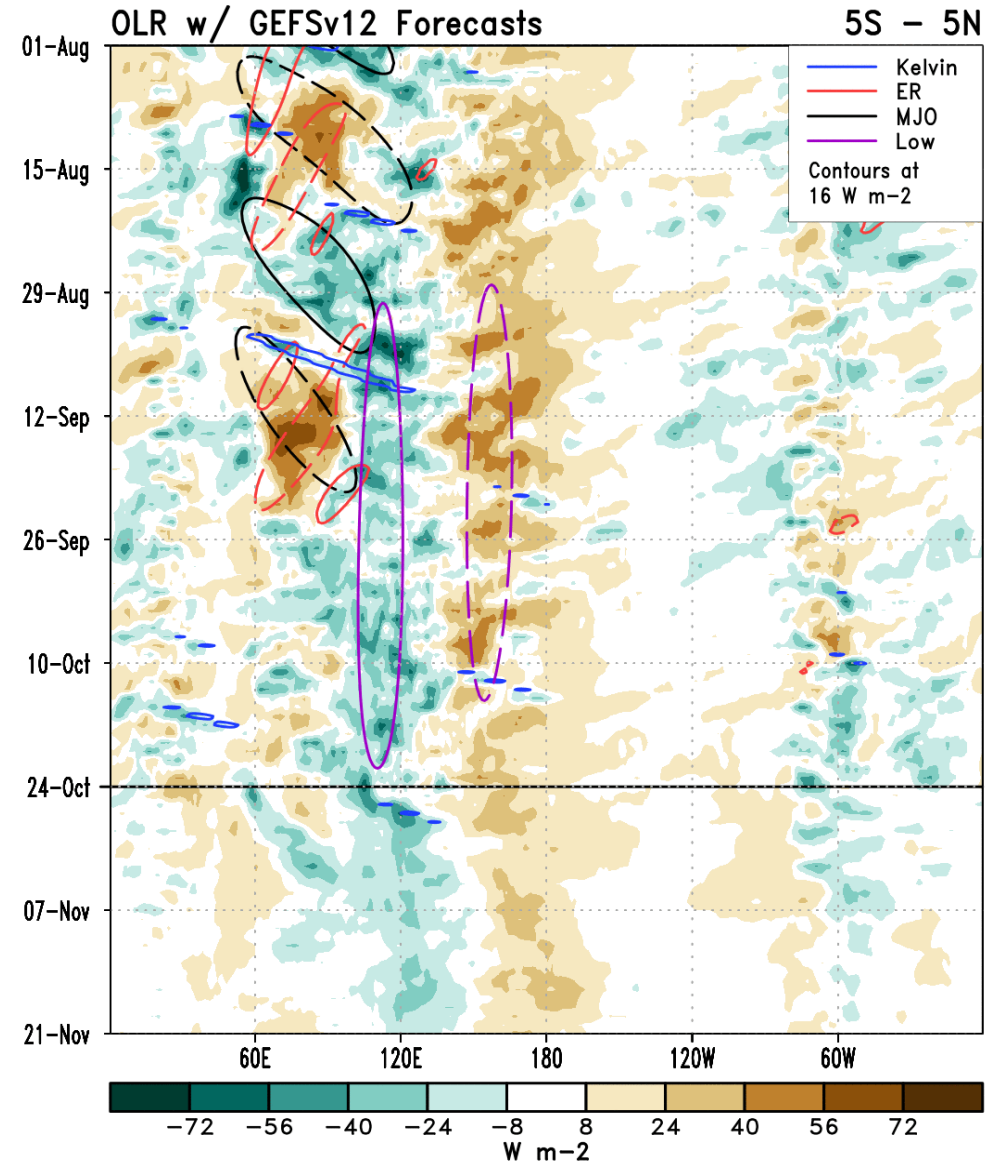
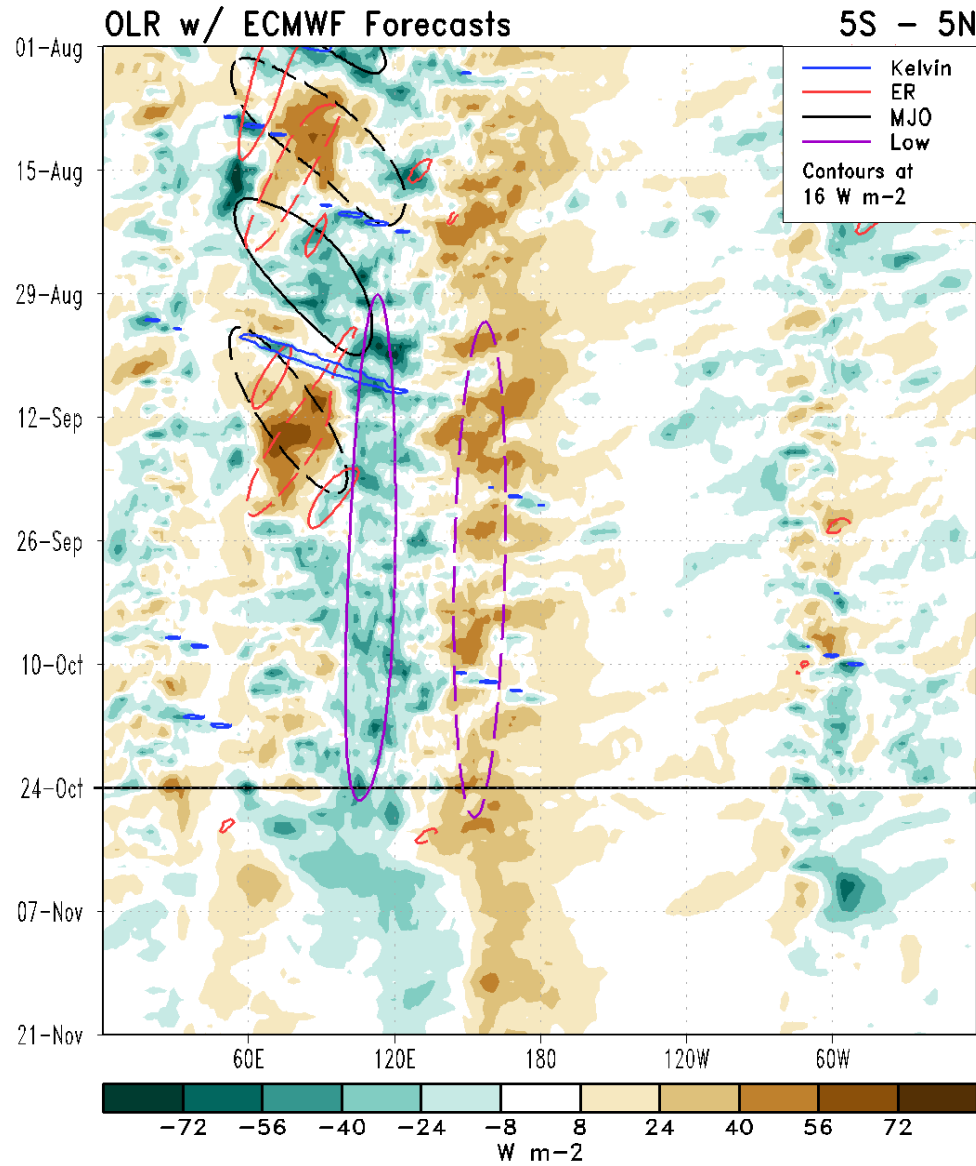


RMM Index Observations & Forecasts:



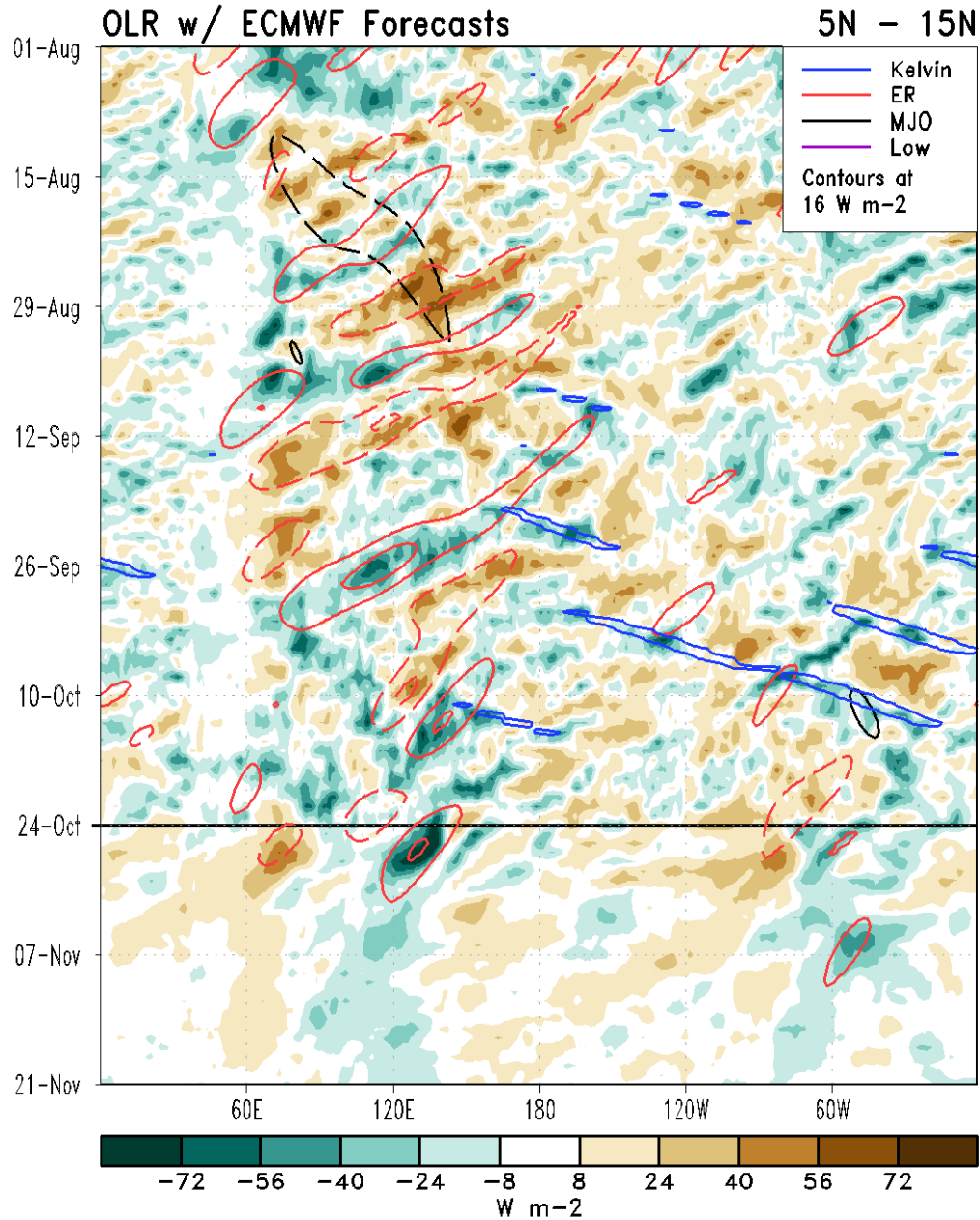
- The CFS presents the most progressive MJO-like evolution, though a few GFS ensemble members also depict a high-energy MJO.
- Both the GFS and ECMWF generally depict fast counter-clockwise propagation displaced to the upper-portion of the RMM diagram. This is suggestive of persistent enhanced West Pacific convection (off-Equator) traversed by Kelvin waves.

Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Note: the 5N - 5S plots are missing the enhanced NW Pacific convection

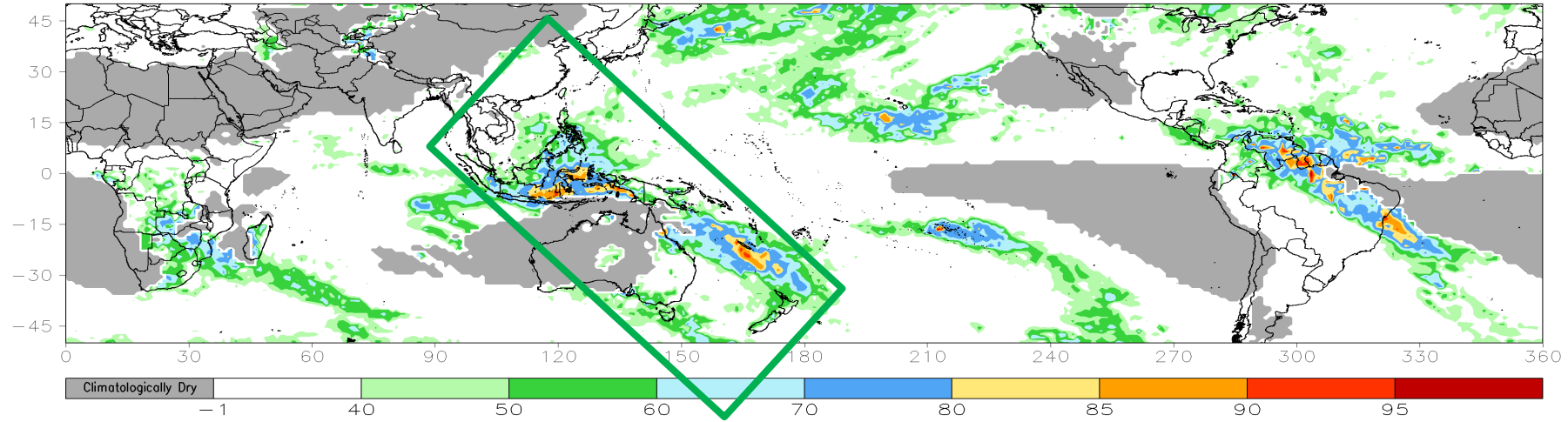
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Week-2

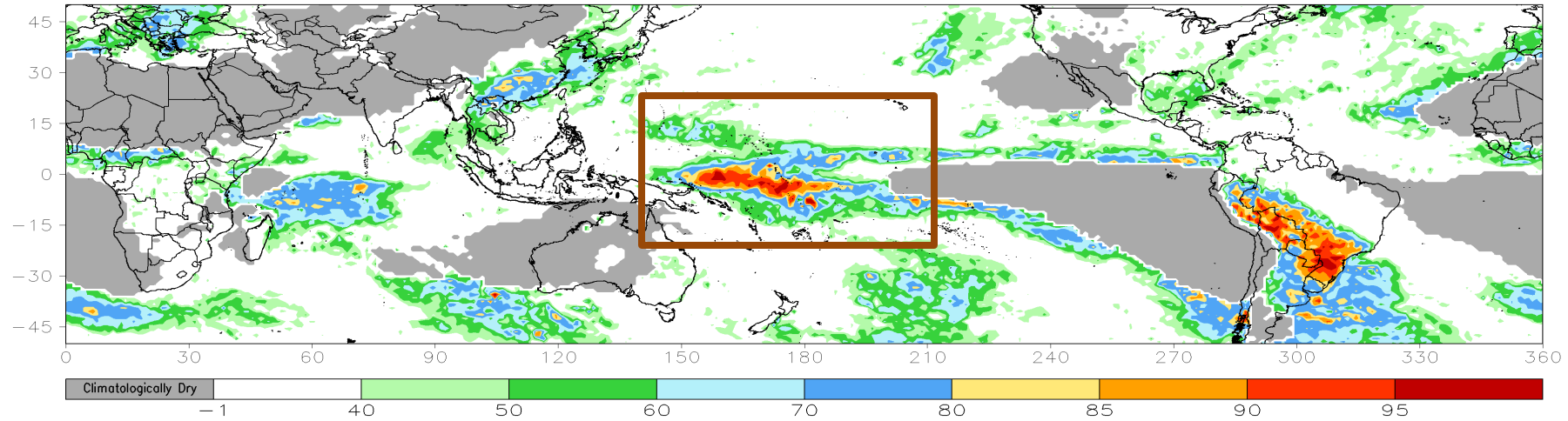
CONS 00z: Week2 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 02Nov2022-08Nov2022



CONS 00z: Week2 Probability for Total Rainfall Below Lower Tercile (%)

Valid: 02Nov2022-08Nov2022

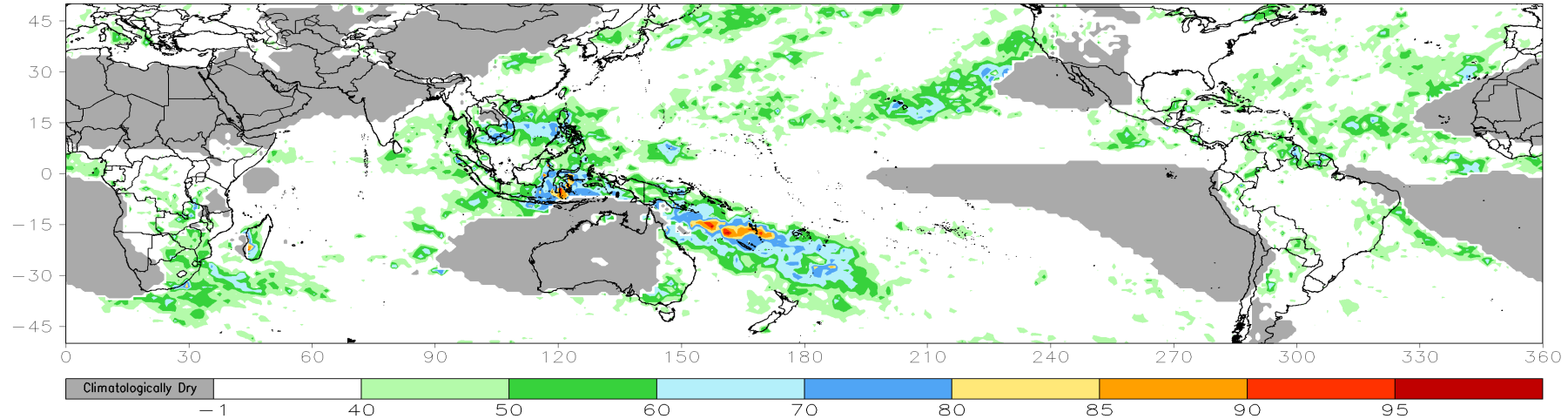


Note these are increasing probabilities for below.

Consolidated Probabilistic Precipitation: Week-3

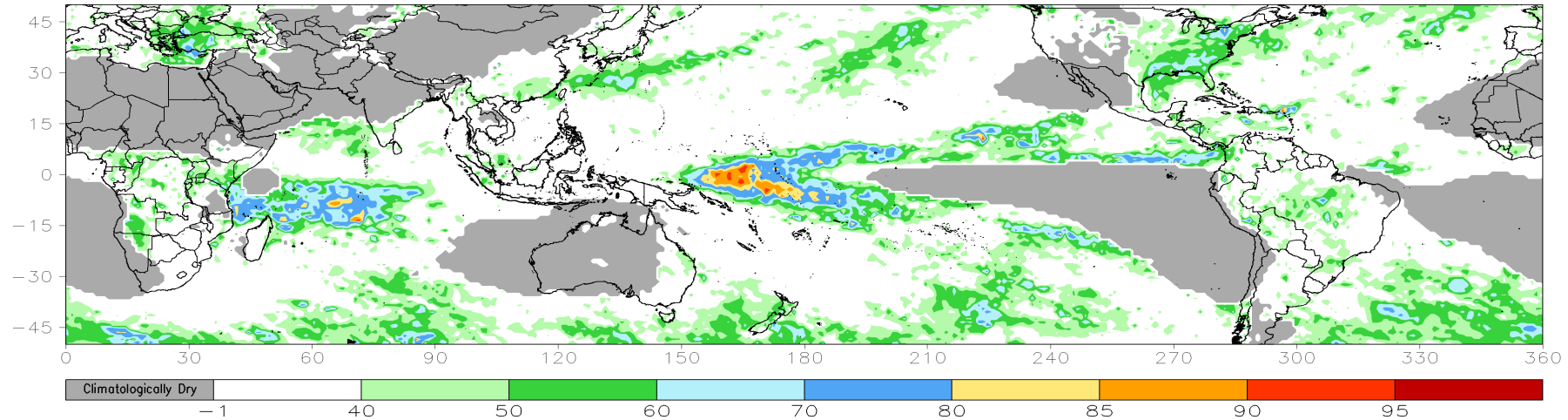
CONS 00z: Week3 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 09Nov2022–15Nov2022



CONS 00z: Week3 Probability for Total Rainfall Below Lower Tercile (%)

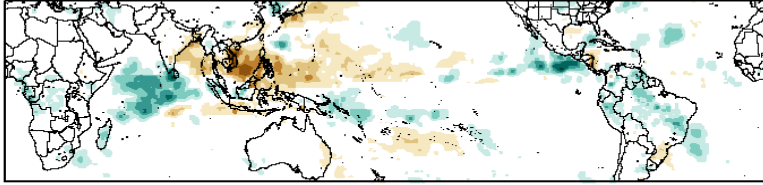
Valid: 09Nov2022–15Nov2022



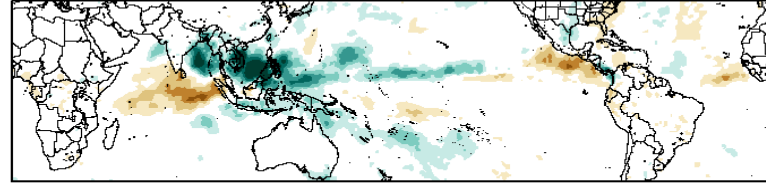
Historical Precipitation Anomalies By MJO Phase:

SON MJO Composite: GPCP1DD (mm/day)

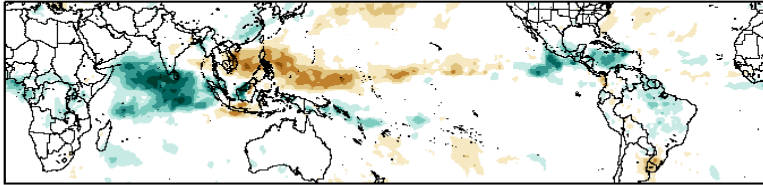
Phase 1



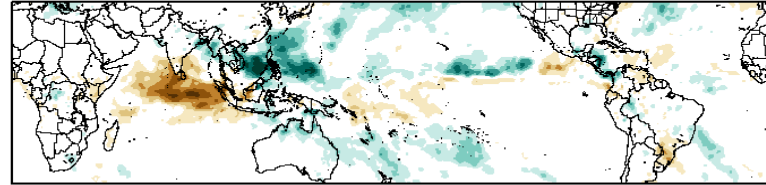
Phase 5



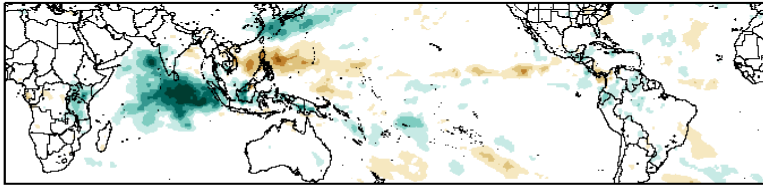
Phase 2



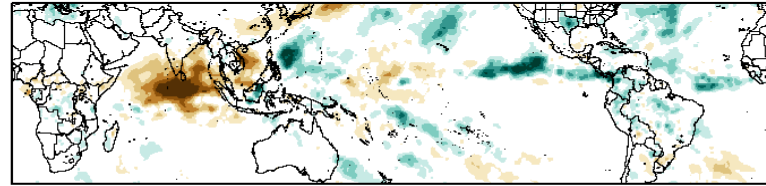
Phase 6



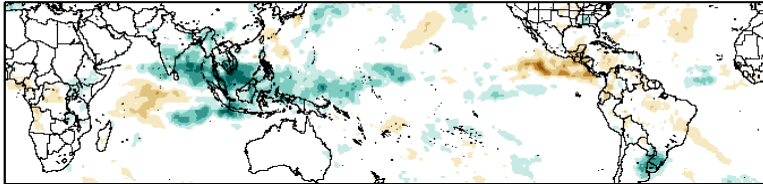
Phase 3



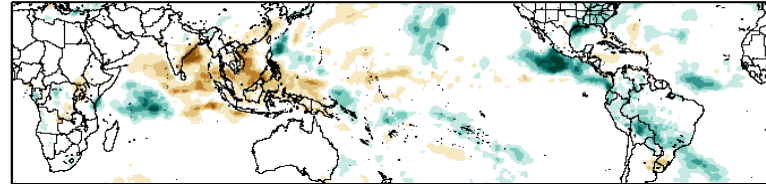
Phase 7



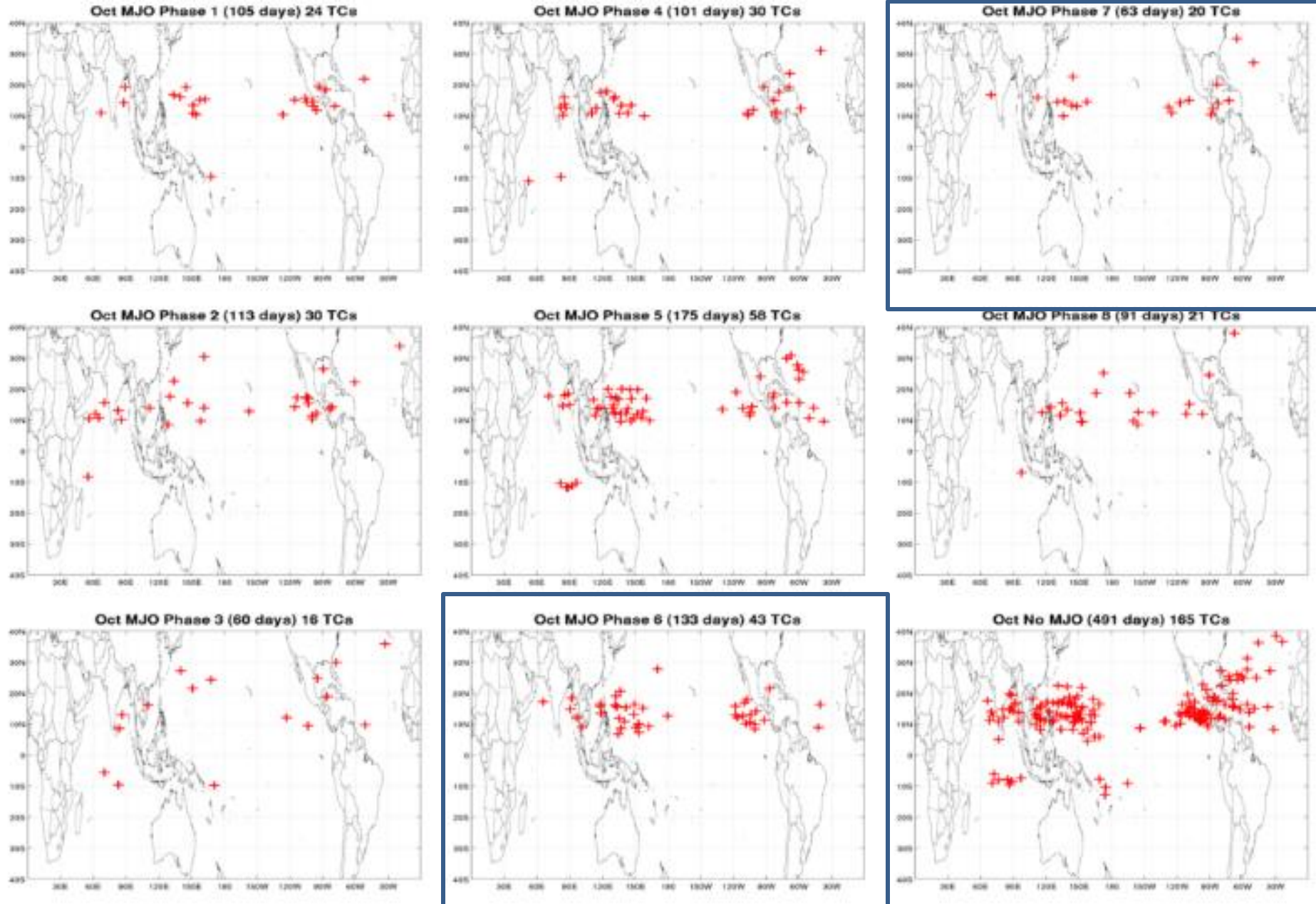
Phase 4



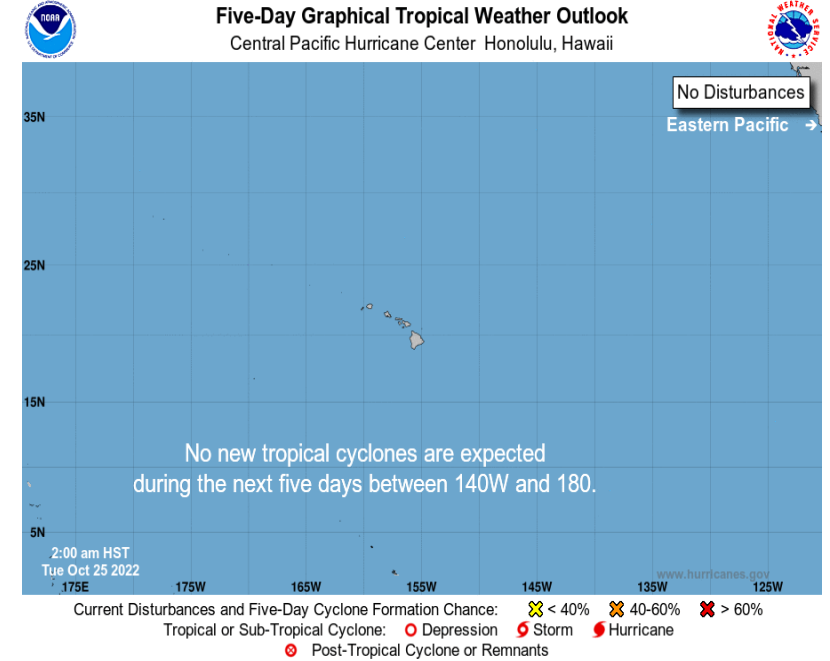
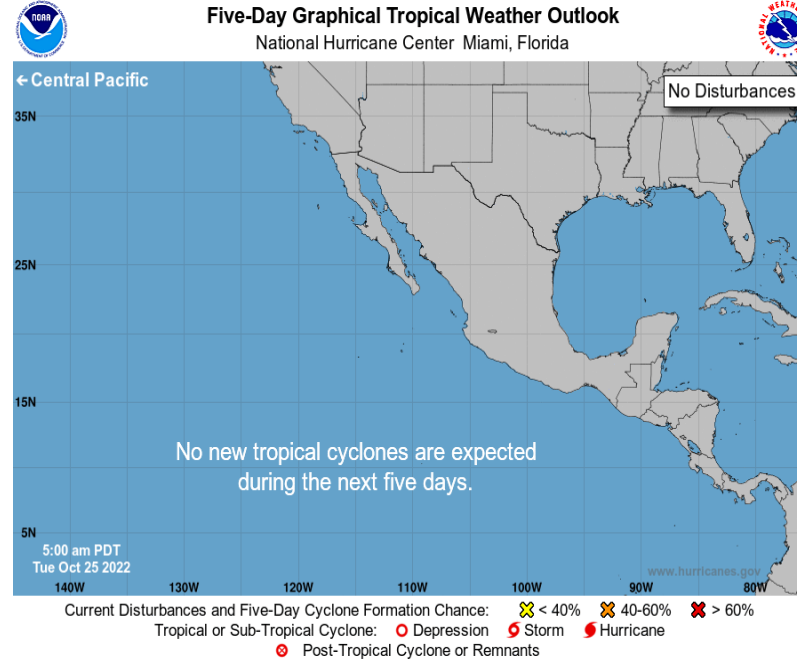
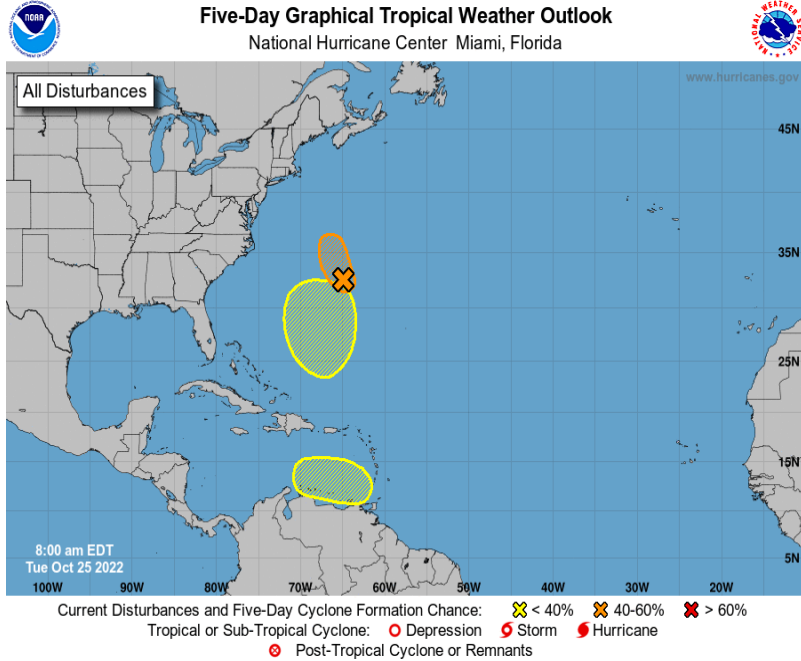
Phase 8



Historical TC Genesis Origins By MJO Phase:



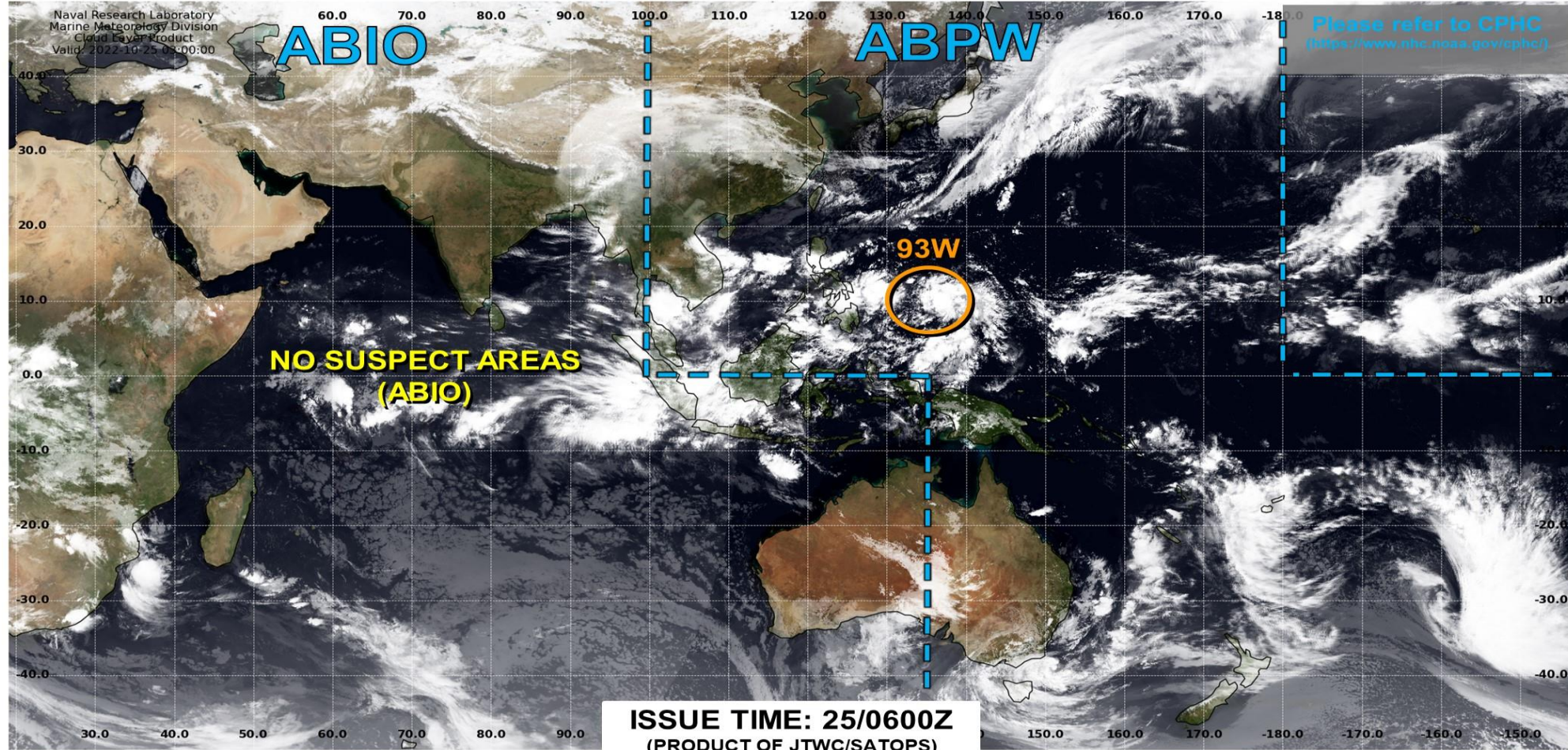
Tropical Cyclone Monitoring/Forecast: NHC



Tropical Cyclone Monitoring/Forecast: JTWC



JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



TC development likely within 24 hours (Reference TCFA)

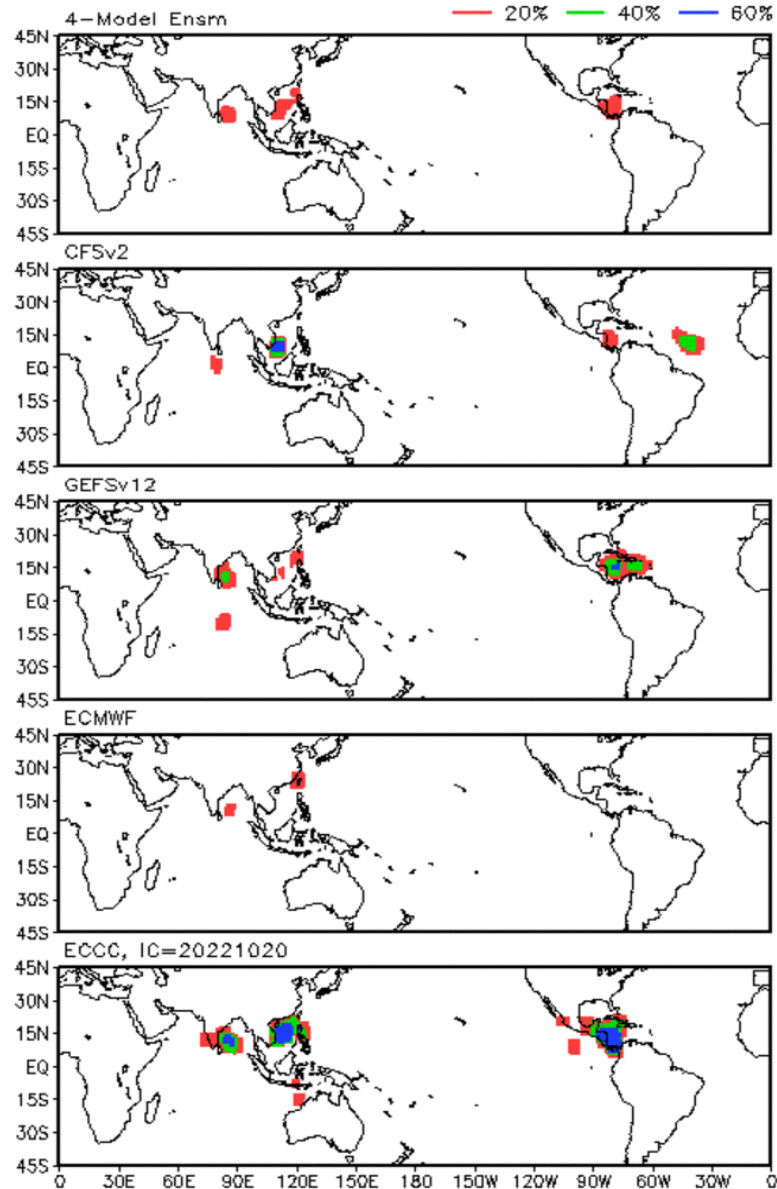


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

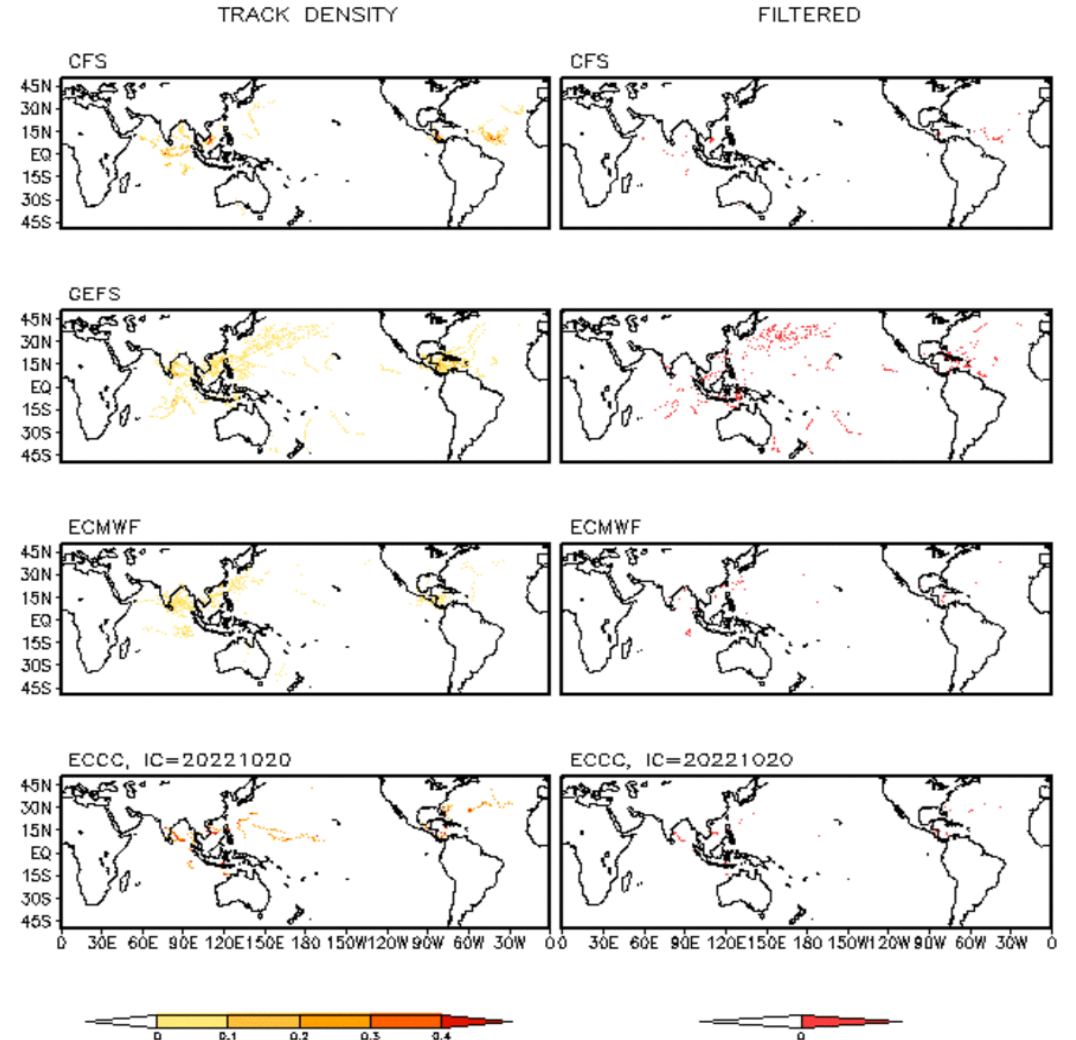


Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20221024
Week 2: 1102 - 1108



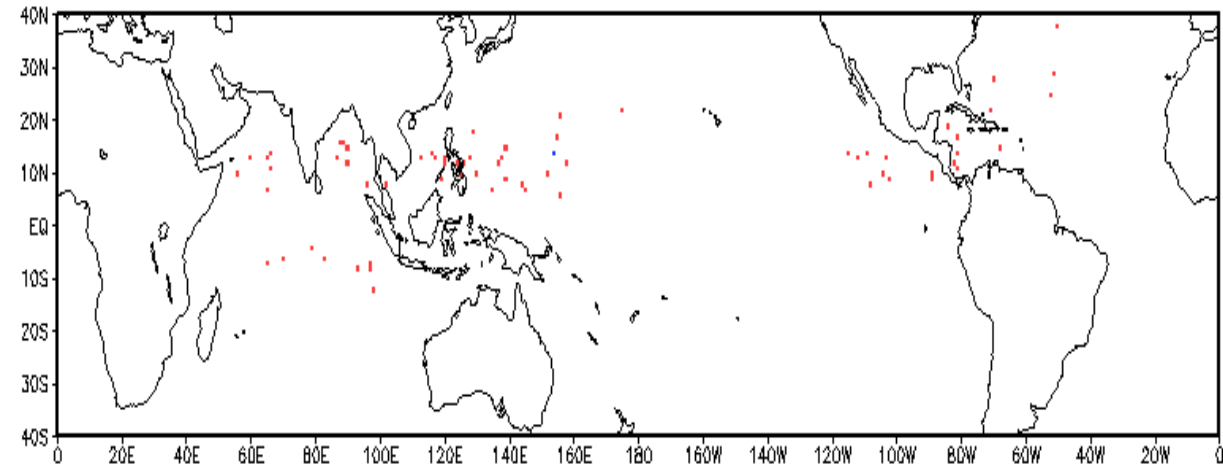
Storm Track Density Distribution, IC=20221024
Week 2 Forecast: 1102-1108



TC Climatological Genesis: Weeks 2 & 3

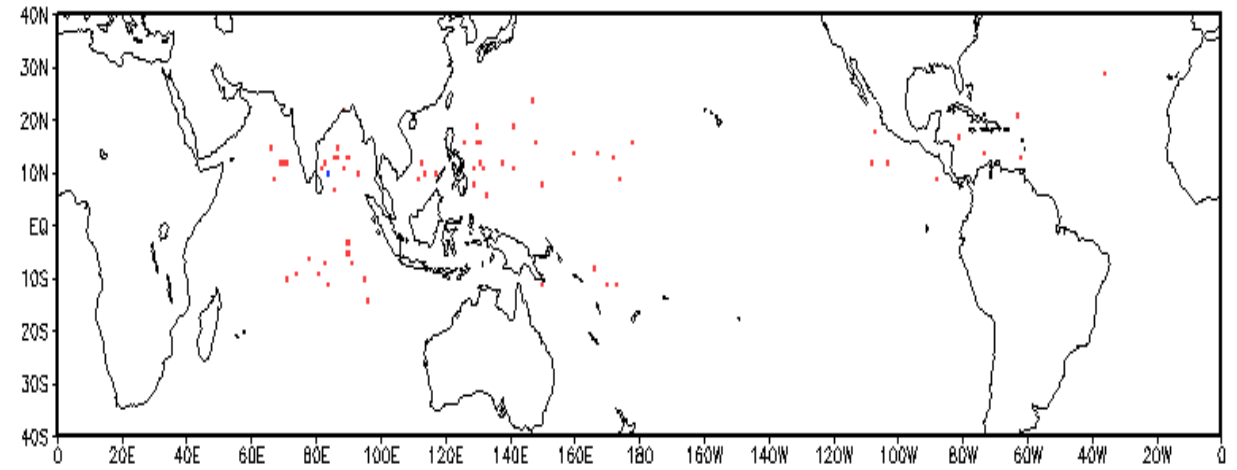
Observed TC Genesis, 1979–2021

7-day Period 1102 to 1108



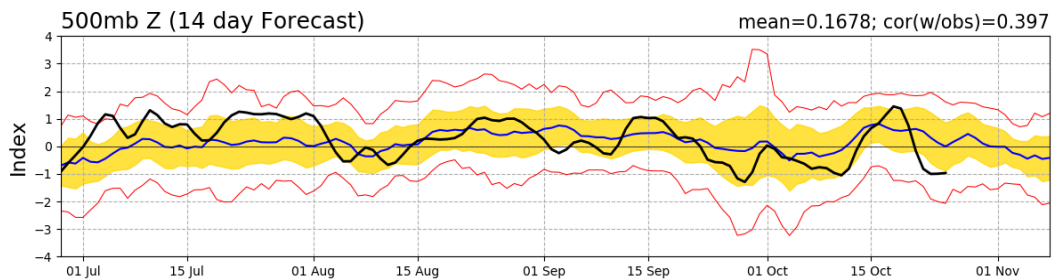
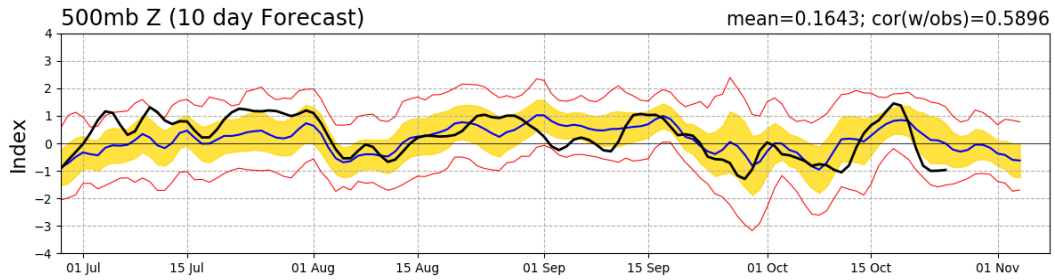
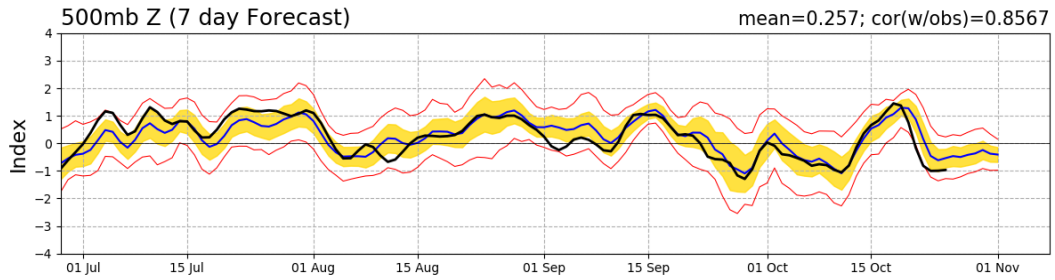
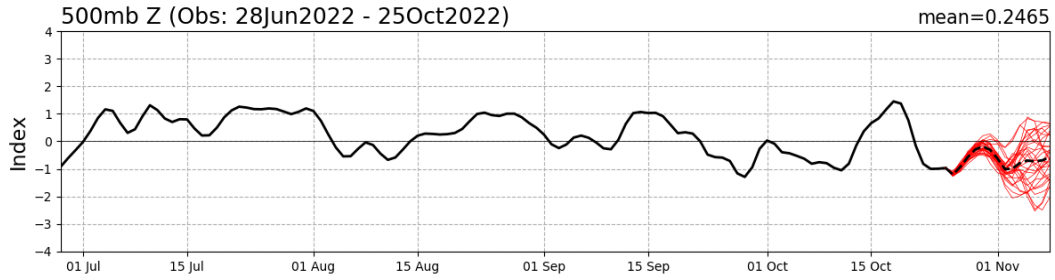
Observed TC Genesis, 1979–2021

7-day Period 1109 to 1115

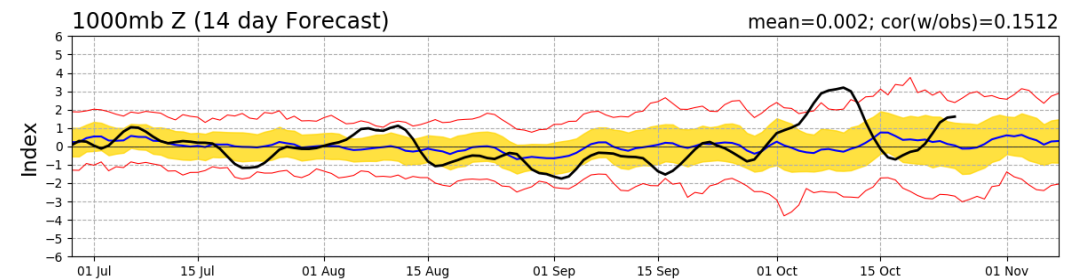
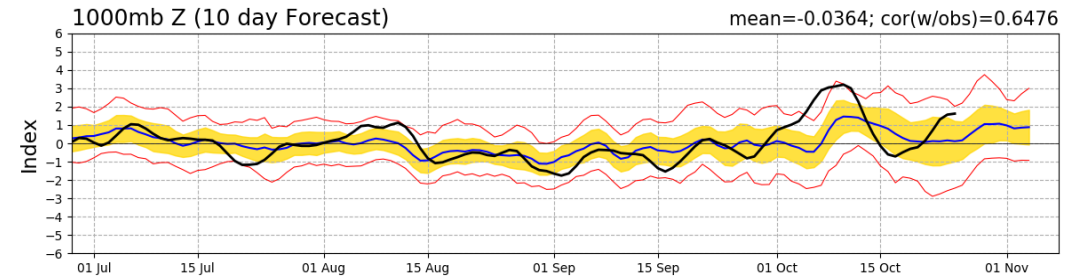
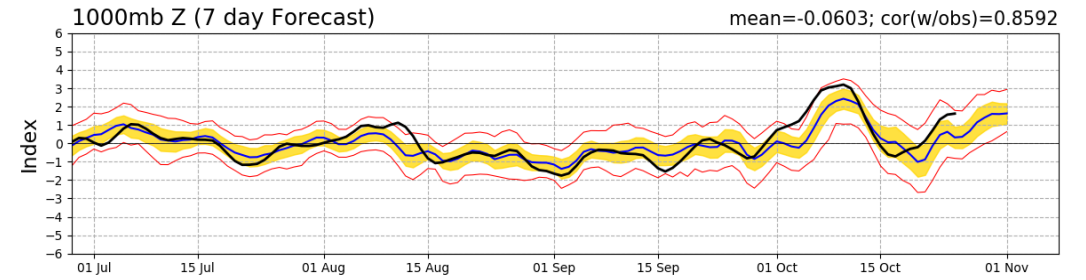
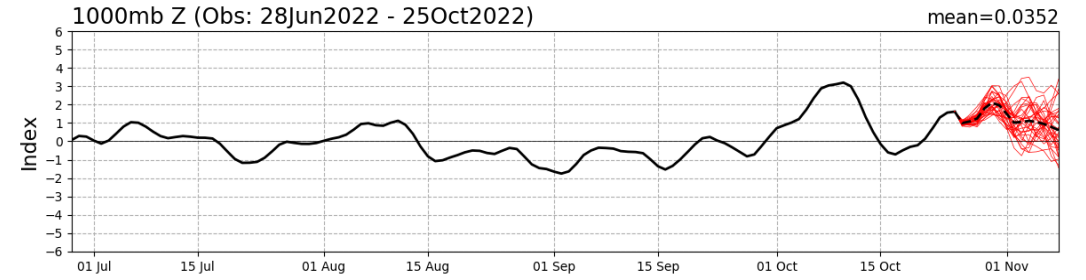


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

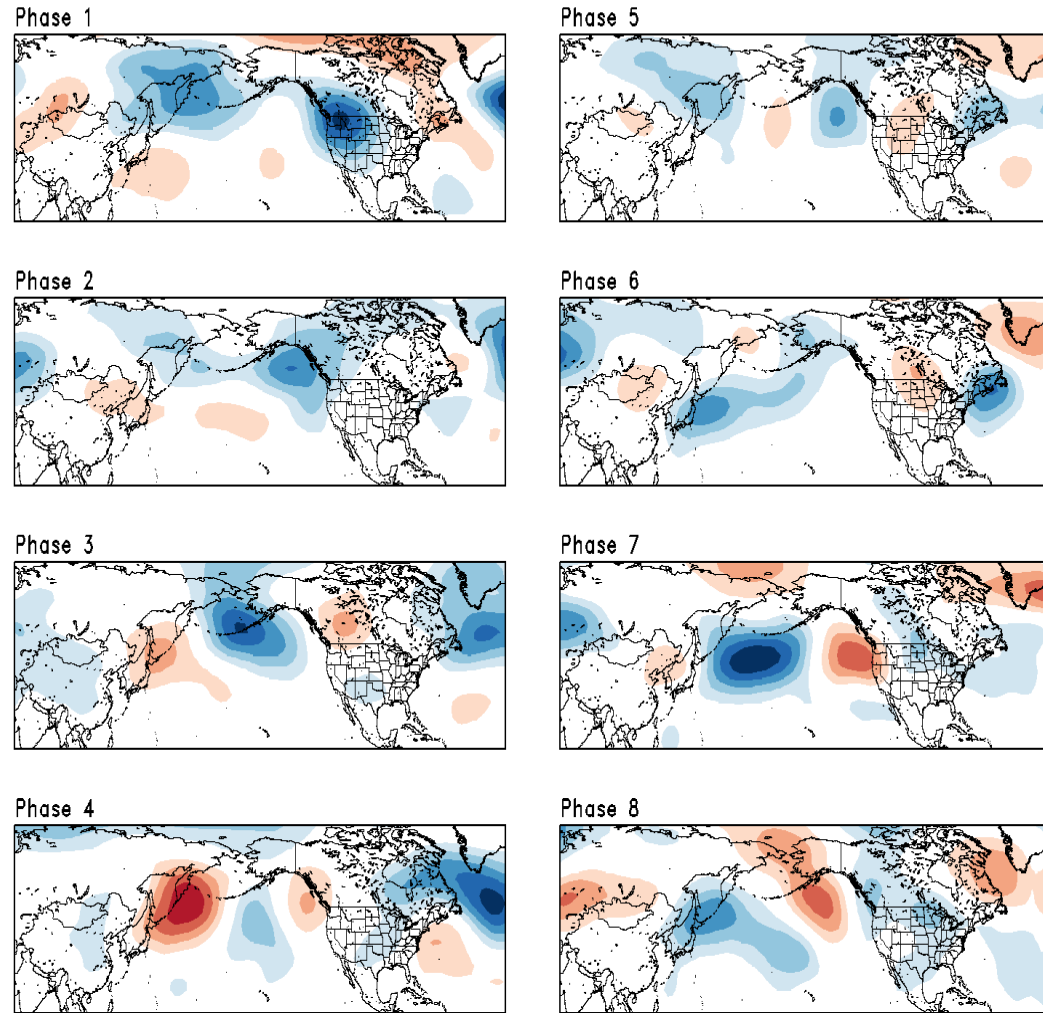


AO Index: Observed & GEFS Forecasts

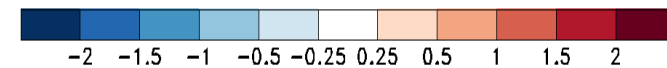
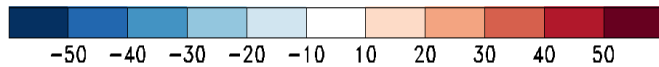
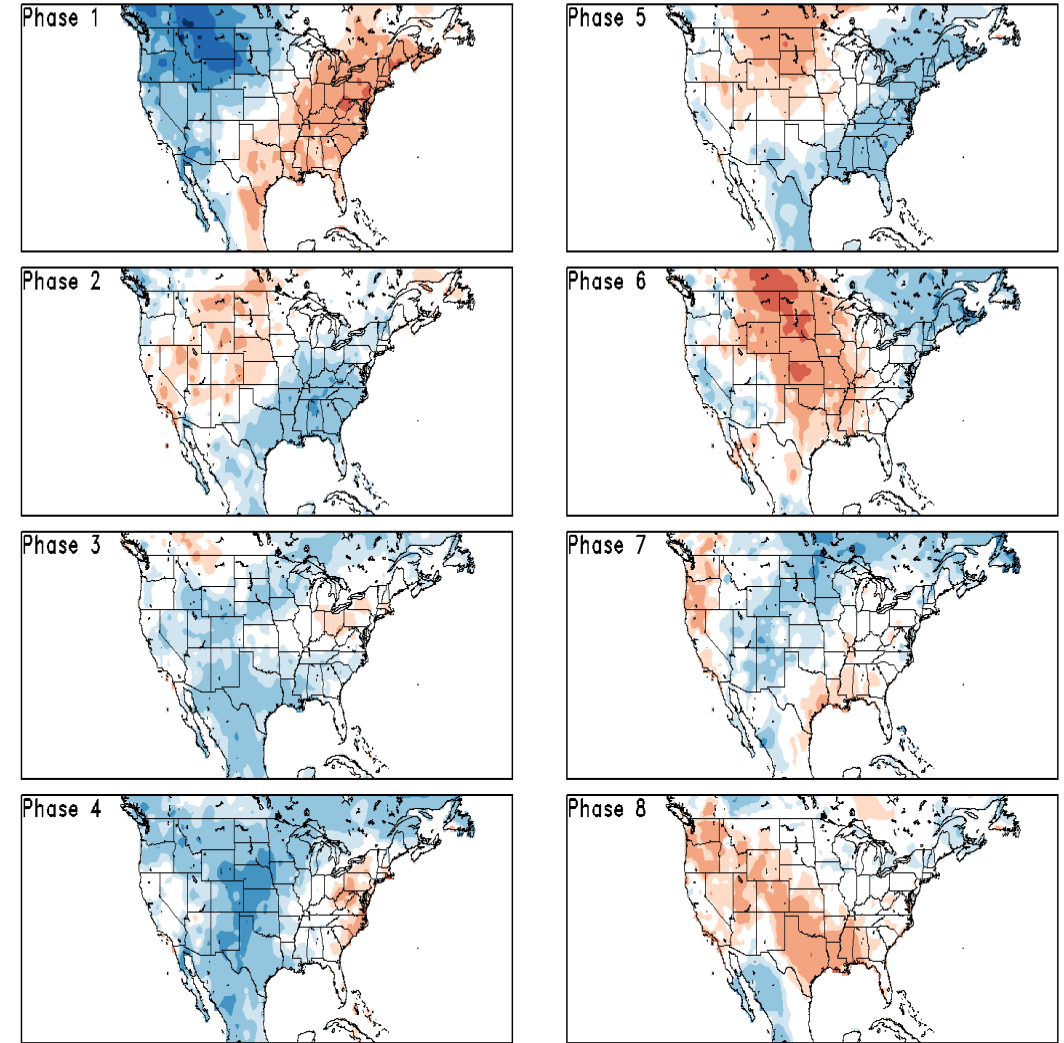


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

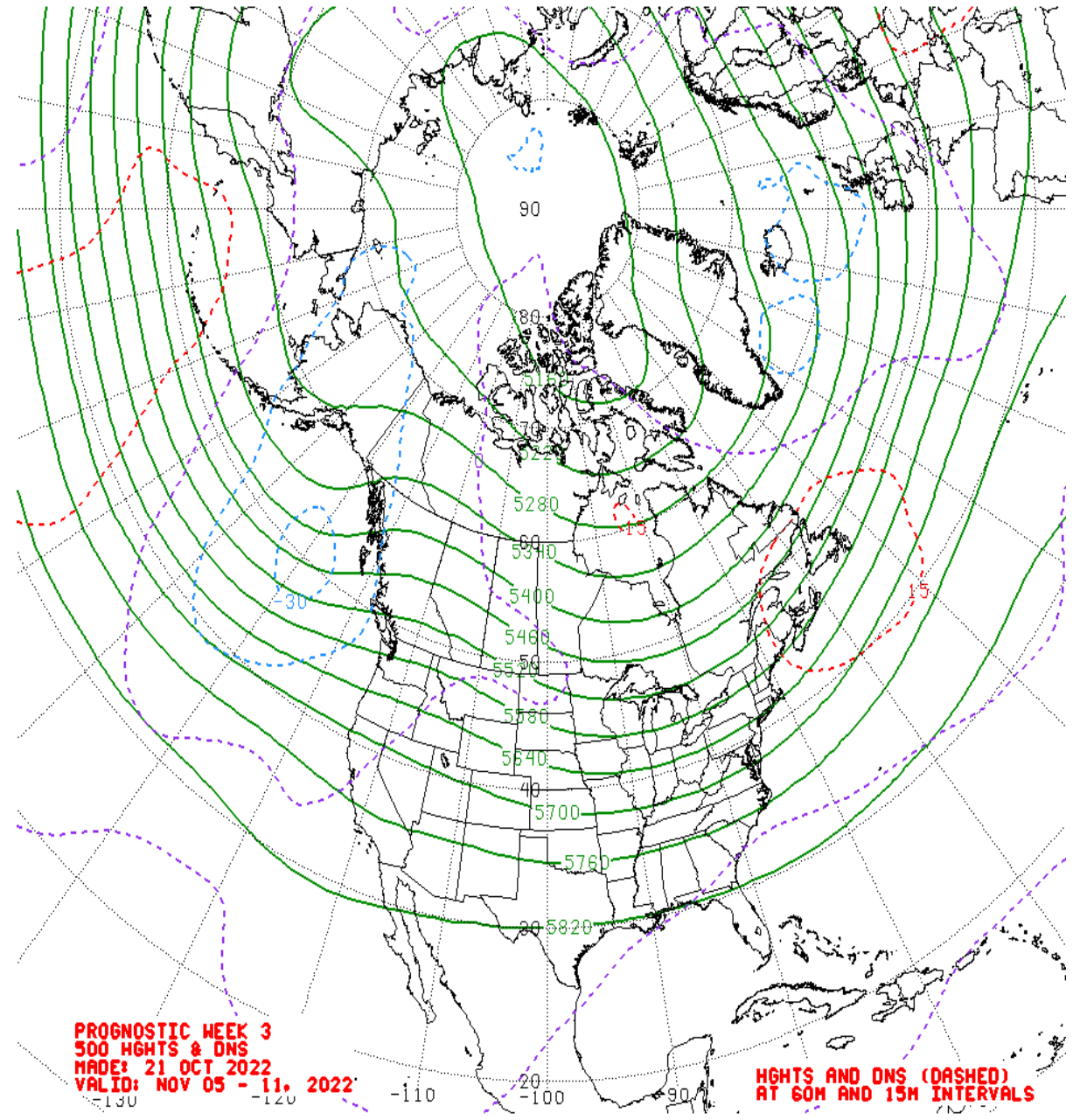
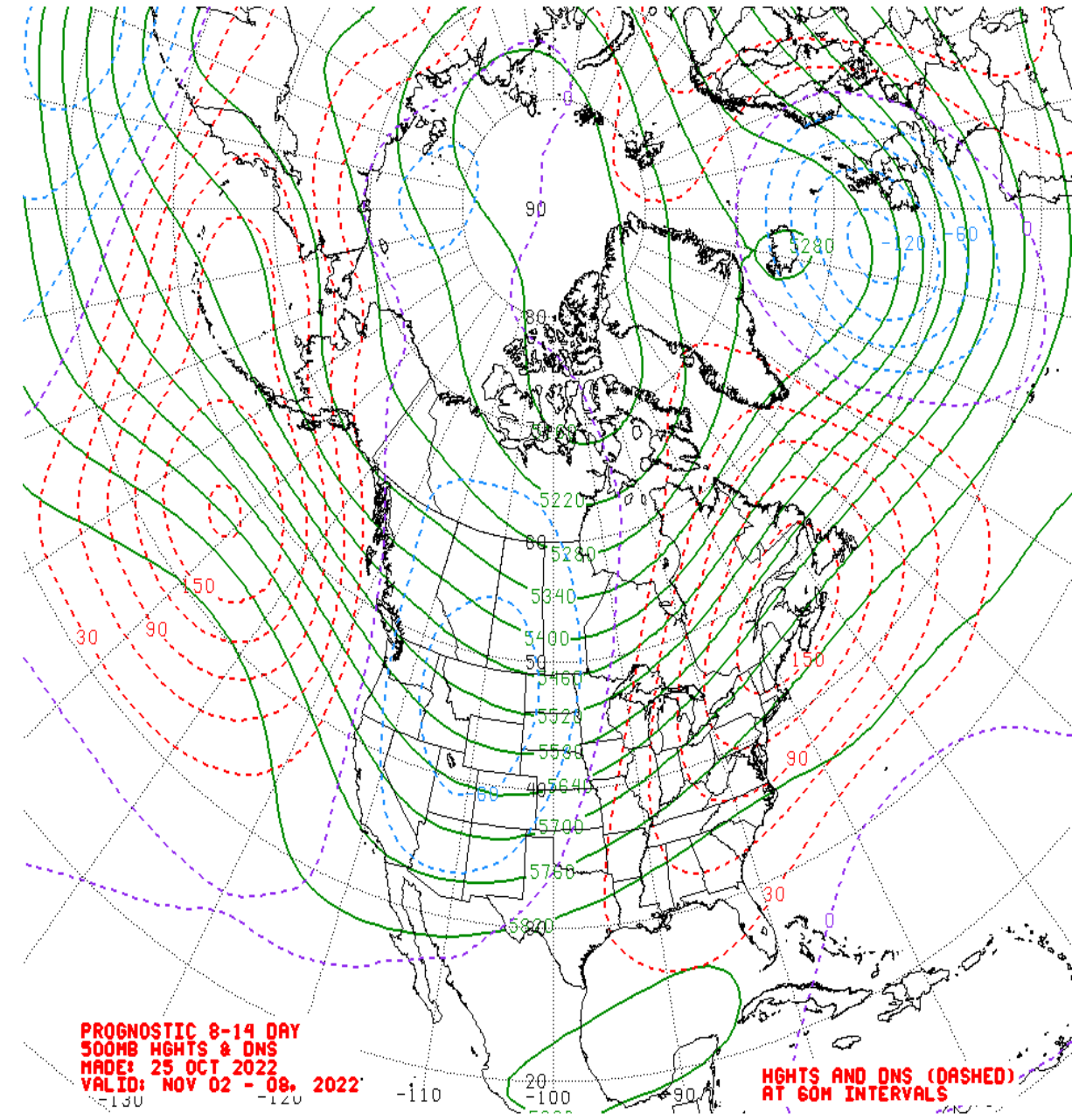
SON MJO Composite: CDAS 500-hPa Height (m)



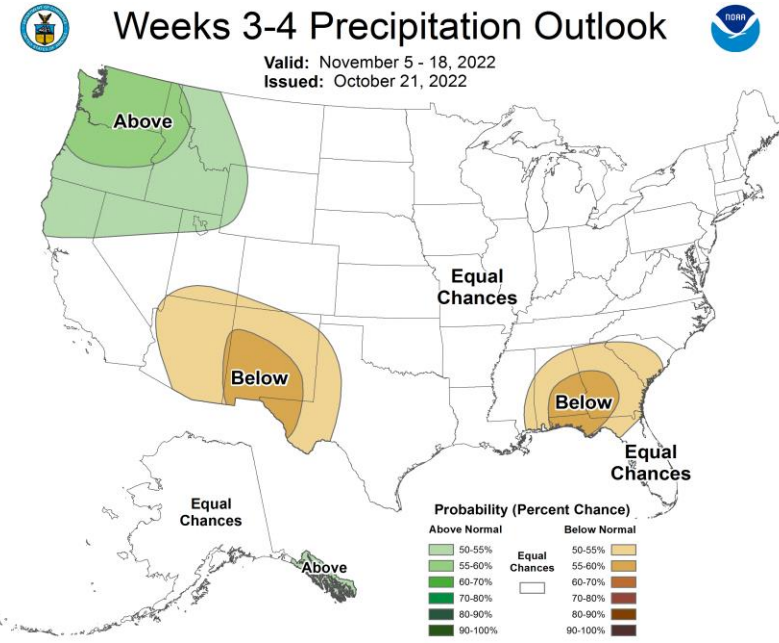
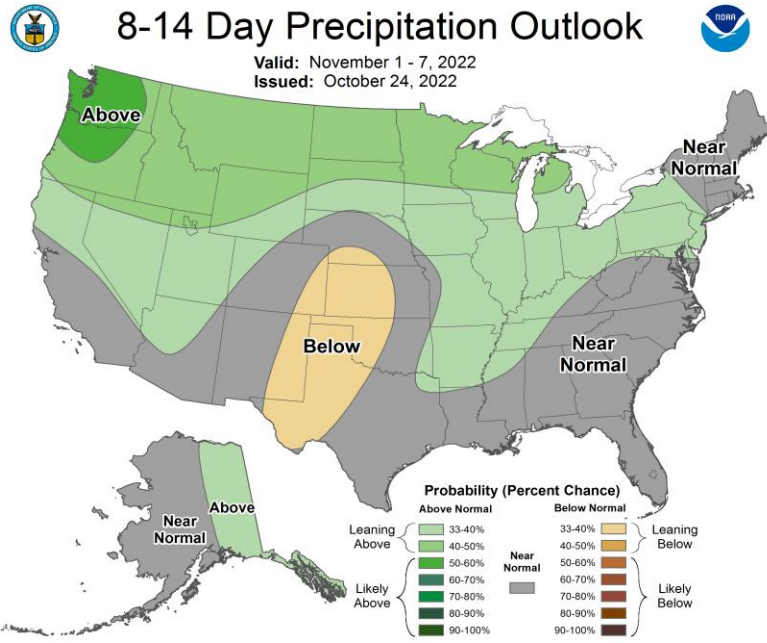
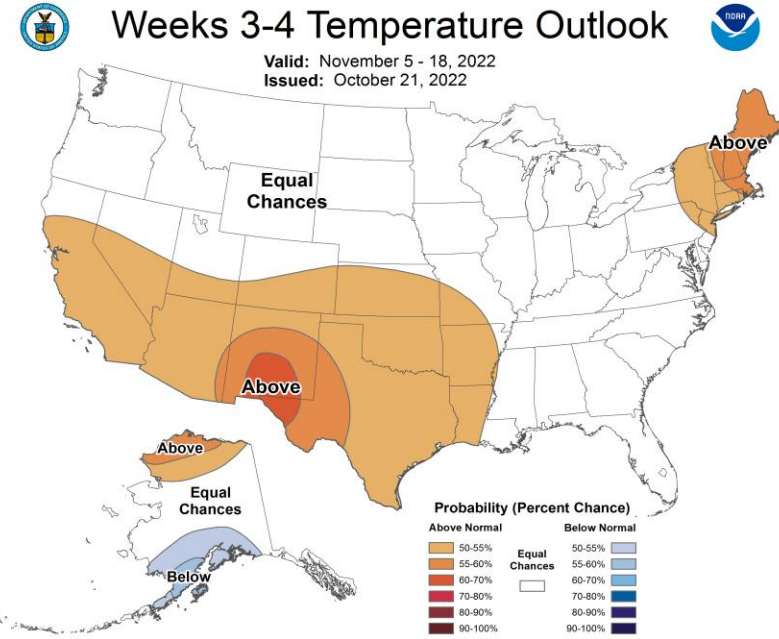
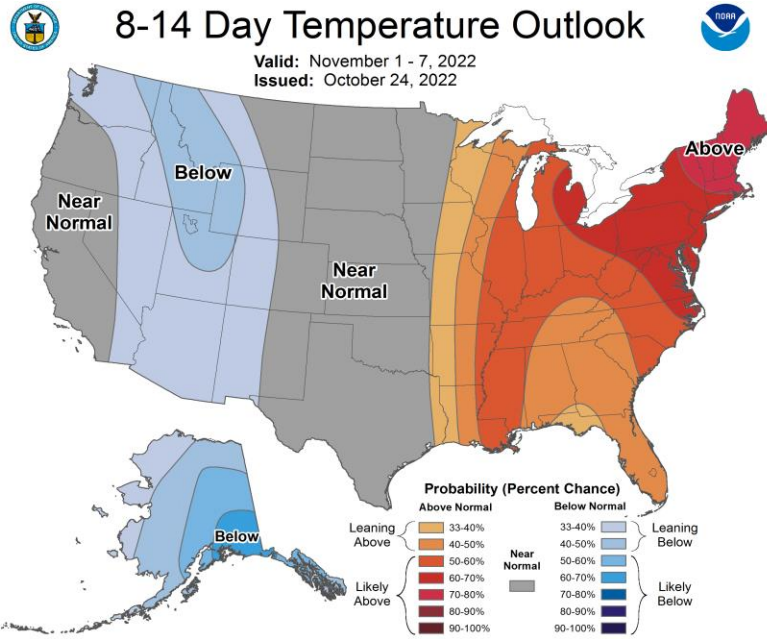
SON MJO Composite: GLBT (degC)



Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:



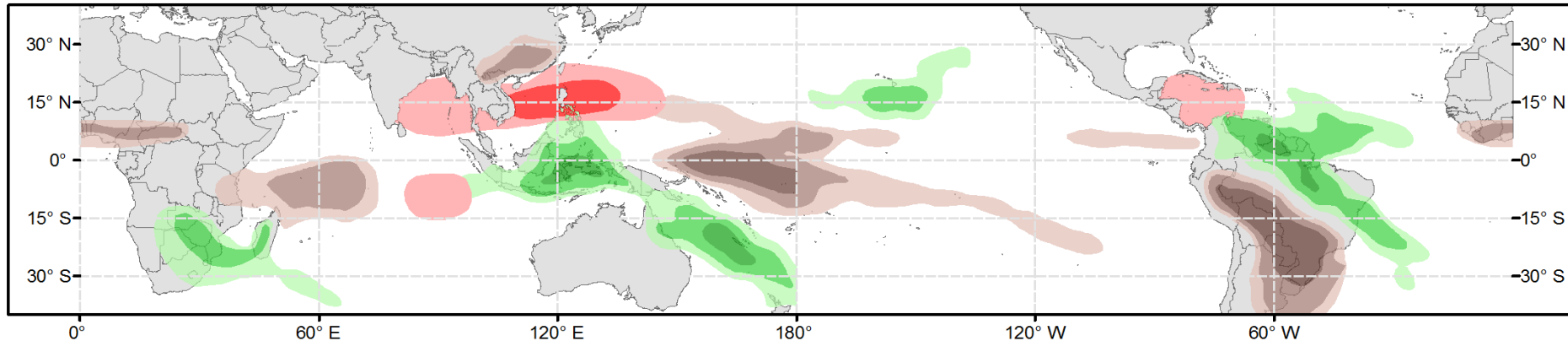


Global Tropics Hazards Outlook

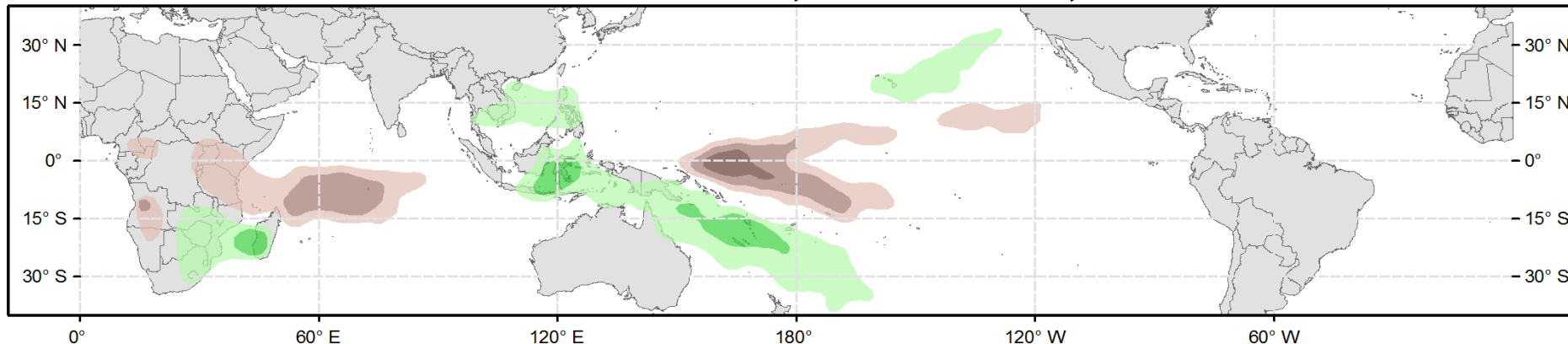
Climate Prediction Center



Week 2 - Valid: Nov 02, 2022 - Nov 08, 2022



Week 3 - Valid: Nov 09, 2022 - Nov 15, 2022



Week-2 Only

Tropical Cyclone (TC) Formation Probability

>20% >40% >60%

Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability

>50% >65% >80%

Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability

>50% >65% >80%

Weekly total rainfall in the Lower third of the historical range

Above-Average Temperatures Probability

>50% >65% >80%

7-day mean temperatures in the Upper third of the historical range

Below-Average Temperatures Probability

>50% >65% >80%

7-day mean temperatures in the Lower third of the historical range

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